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# Communication Apprehension as a predictor of Proxemic Establishment, Self-Esteem, & Dogmatism

Joseph Cardot III

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COMMUNICATION APPREHENSION AS A PREDICTOR OF PROXEMIC  
ESTABLISHMENT, SELF-ESTEEM, AND DOGMATISM

A THESIS  
PRESENTED TO

the faculty of the Department of Communication and Theatre  
Western Kentucky University  
Bowling Green, Kentucky

In Partial Fulfilment  
of the Requirements for the Degree  
Master of Arts

by  
Joseph James Cardot, III  
May 1980

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COMMUNICATION APPREHENSION AS A PREDICTOR OF PROXEMIC  
ESTABLISHMENT, SELF-ESTEEM, AND DOGMATISM

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## DEDICATION

This thesis is dedicated to:

My wife, Vickie Rae, for her incredible patience with me and invaluable encouragement. She always sees a future for us both filled with service to God and to each other based upon undying love.

My parents, Joseph and Carman Cardot. Their love and support for me was manifested in their striving to teach me how to think for myself and to be happy and optimistic in all situations.

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COMMUNICATION APPREHENSION AS A PREDICTOR OF PROXEMIC  
ESTABLISHMENT, SELF-ESTEEM, AND DOGMATISM

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82 pages

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Based upon limited findings dealing with nonverbal behavior and personality traits as they relate to communication apprehension, the purpose of this study was to examine the relationship of communication apprehension with proxemic establishment, self-esteem, and dogmatism. The study analyzed these variables utilizing subjects who were statistically either high or low communication apprehensives. Interesting results were attained. An inverse relationship between apprehension and proxemic establishment was revealed, such that dyads containing low-low members established greater interpersonal distance than dyads containing high-low members who established greater interpersonal distance than dyads containing high-high members. Communication apprehension overrode the sex variable with relation to spatial usage. Subjects high in self-esteem were low in communication apprehension, while subjects low in self-esteem were high in communication apprehension, thus indicating a negative or inverse relationship. Finally, subjects high in apprehension were high in dogmatism while those low in apprehension were low in dogmatism.

Implications of the study are of interest to both

researchers and those instructors who teach communications. The need for further research with regard to these variables is most apparent.

## CHAPTER I

### INTRODUCTION, REVIEW OF LITERATURE, RATIONALE, AND HYPOTHESES

#### Introduction

Communication is defined by Webster as "intercourse by words, letters, or messages; interchange of thought or opinions."<sup>1</sup> However, communication is more accurately perceived as a relationship composed of communication predispositions or habits, (such as communication apprehension) and cultural behaviors, (such as proxemics) which blend to help the critic understand the effects of the one on the other. Properly studied, on an interpersonal level, one must determine not only the effects societal norms have on the individual, but also what effect the individual's communication predispositions have upon his use of norms.

Every individual in the American culture interacts or fails to interact with others by choice. The frequency of interaction results in perceptions held by participants

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<sup>1</sup>  
Webster's Collegiate Dictionary, Fifth Edition, (Springfield, Mass.: G & C Merriam Co., Publishers, 1948): 203.

as to the worthiness, expertness, sociability, and desirability to have relationships with them. These perceptions, based upon interaction alone, are often incorrect and result in fewer interpersonal relationships than would otherwise occur.

While a great deal of research exists dealing with attempts to recognize, define, isolate, and understand communication apprehension, little research seeks to use what is known and attempts to predict actions based solely upon the degree of apprehension. In fact, only in the past two or three years has any attempt been made at all.

In order to establish a sufficient context for the present study, an attempt will be made first to provide a broad picture of communication apprehension as it has evolved in the extant literature. From there a brief examination of the nonverbal area dealing with proxemics will be included. Finally the two areas will be synthesized. It is hoped that this general overview will better prepare the reader for the specific research questions which will eventually be examined. The study's primary focus is to an analysis of communication apprehension as an accurate predictor of spatial usage in interpersonal situations.



## Review of Literature

### Communication Apprehension

Definitions. An examination of the construct known as communication apprehension reveals that an evolution within the research has taken place beginning with Floyd I. Greenleaf, who approached the problem of social speech fright by defining it as:

... an evaluative disability, occurring in social speech situations, and characterized by anticipatory negative reactions of fear, avoidance, and various internal and overt manifestations of tension and behavioral maladjustment.<sup>2</sup>

Greenleaf examined the phenomenon and found that social speech fright measures fall into one of three rough categories: observer rating scales, introspective measures (self reports), and devices for measuring physiological changes during speaking (skin responses, heart rate, blood pressure, etc.).<sup>3</sup>

Following these guidelines, Jones, in an unpublished M.A. thesis (Stanford University 1947), found that fifty students who were rated high in stage fright by two instructors in speech reported that they experienced significantly more forgetting, confusion, weakness, pounding of the heart, fear of audience disapproval, fear of failure,

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<sup>2</sup>  
Theodore Clevenger, Jr., "A Synthesis of Experimental Research in Stage Fright," Quarterly Journal of Speech 45 (February 1959): 134.

<sup>3</sup>  
Ibid.



and insecurity about their speech materials than did a group of fifty students rated low in stage fright by the same instructors.<sup>4</sup> These results were based upon the first two categories outlined by Greenleaf, observer reports and personal reports. Jones then studied the actual physiological changes in the students and found that those who were rated high in stage fright exhibited significantly greater physiological changes than those rated low in stage fright.<sup>5</sup>

Little research which changed the attitudes of researchers concerning stage fright was conducted for the next fifteen years. Not until the late 1960's was any attempt to isolate and study the phenomenon begun in earnest. The majority of all research that is extant has been conducted under the influence of James C. McCroskey. McCroskey noted that oral communication apprehension is not merely a new term for "stage fright".<sup>6</sup> While oral communication apprehensives will usually suffer stage fright in public performances, not everyone who suffers from stage fright is an oral communication apprehensive.<sup>7</sup> Oral communication apprehension refers to a broad-based apprehension about oral communication which ranges from talking on the interpersonal

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4

Clevenger, Jr., "A Synthesis of Experimental Research."

5

Ibid.

6

James C. McCroskey, "Measures of Communication-Bound Anxiety," Speech Monographs 37 (1970): 269.

7

Ibid.

level, to a performance on stage, to making a speech on television.<sup>8</sup> McCroskey coined the term "communication apprehension."<sup>9</sup> It is used in reference to an anxiety syndrome associated with either real or anticipated communication with another person or persons.<sup>10</sup> An individual "with 'high' communication apprehension is one whose anxiety about or fear of communicating with others outweighs the person's projections of gain from such an activity."<sup>11</sup>

This construct is similar to two others, reticence and shyness. While similar, the differences among the three are significant and must be understood. A "reticent" person has been defined by Phillips as an individual "for whom anxiety about participation in oral communication outweighs his projections of gain from the situation."<sup>12</sup> Zimbardo defines "shyness" as an "internal state of the individual which inhibits that person across a wide variety of communication contexts, such a state being ultimately controlled by the situation."<sup>13</sup> The important difference is that while

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<sup>8</sup> James C. McCroskey, "Classroom Consequences of Communication Apprehension," Communication Education 26 (January 1977): 27.

<sup>9</sup> McCroskey, "Measures of Communication-Bound Anxiety," p. 269.

<sup>10</sup> Ibid., p. 270.

<sup>11</sup> Ibid., p. 270.

<sup>12</sup> Gerald M. Phillips, "Reticence: Pathology of the Normal Speaker," Speech Monographs 35 (1968): 40.

<sup>13</sup> Philip G. Zimbardo, Shyness: What It Is and What To Do About It, (Reading, Mass.: Addison-Wesley Co., 1977): 287.

most people will experience significant anxiety in some communication situations, such as when forced to give a public speech, the person referred to as a "high communication apprehensive" will experience such difficulties in most, if not all, situations which require oral communication with another person or persons.<sup>14</sup>

Utilizing these concept of communication apprehension, reticence, and shyness, as set forth by McCroskey, Zimbardo, and Phillips, one may see that they are widening Clevenger's idea of stage fright which he defines as "any emotional condition in which emotion overcomes intellect to the extent that communication is hampered, either in audience reception or in speaker self-expression, where the immediate object is the speech-audience situation."<sup>15</sup> Clevenger explains the psychological implications, yet limits his research to the public speaking context. The researchers of the past fifteen years have narrowed the definition by dividing it into various aspects, while at the same time expanding it to include all communication situations.<sup>16</sup>

Frequency. Findings concerning the frequency of stage fright indicate that public communication is the single most

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<sup>14</sup>

Zimbardo, Shyness: What It Is and What To Do About It.

<sup>15</sup>

Theodore Clevenger, Jr., "A Definition of Stage Fright," Central States Speech Journal 6 (1955): 30.

<sup>16</sup>

Phillips, "Reticence: Pathology of the Normal Speaker."



feared experience by Americans.<sup>17</sup> While persons with high communication apprehension generally go unnoticed in the general society, the number of such people is suprisingly high. Research by McCroskey involving the general United States population and varying from grade-school children through college students to senior citizens indicates "that the proportion of such people in all age groups in the United States is approximately 20 percent."<sup>18</sup> Some estimates range as high as 40 percent.<sup>19</sup>

In an attempt to isolate who is hampered most by what is now termed communication apprehension, Gilkenson and Knowler conducted psychological tests on college males and females.<sup>20</sup> They indicated that college women reported more public speaking fear than did college men.<sup>21</sup> However, observer ratings of speakers consistently reveal men as more anxious than women, even though women report more fear.<sup>22</sup> It appears that women are more likely to admit the anxiety

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17

James C. McCroskey, "The Problem of Communication Apprehension in the Classroom," Paper presented to the Communication Association of the Pacific, Kobe, Japan, 1976.

18

James C. McCroskey, "Oral Communication Apprehension: A Summary of Recent Theory and Research," Human Communication Research 4 (1977): 79.

19

Zimbardo, Shyness.

20

Howard Gilkenson and Franklin Knowler, "Individual Differences Among Students of Speech as Revealed by Psychological Tests," Quarterly Journal of Speech 26 (1940): 405-409.

21

Ibid.

22

Clevenger, "A Synthesis of Experimental Research," p. 140.

that they feel than men are.

It can therefore be concluded that a significant portion of the American population suffers from chronic anxiety towards communicating with others. This syndrome, however, is not limited to the American society alone. Research in other cultures suggests quite similar proportions within most groups, with some varying substantially below this level (such as Israelis and Jewish Americans) and some varying substantially above this level (such as Germans,<sup>23</sup> Indians, Japanese, and Mexicans). While it is not the purpose of the current study to analyze the effects of communication apprehension cross-culturally, it is important to keep in mind that it is a predisposition that affects every society on earth.

Interpersonal Relationships. Having established the existence of communication apprehension, one must understand how information is transmitted to fully comprehend the perceptions formed by the participants in any given communication situation. Although some information may be obtained from observations of another person's behaviors and the careful decoding of their nonverbal communication, the primary source of information is the content of the other person's verbal behavior.<sup>24</sup> Essentially, talking permits

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<sup>23</sup>

Zimbardo, Shyness, p. 233.

<sup>24</sup>

James C. McCroskey and Virginia Richmond, "The Impact of Communication Apprehension on Individuals in Organizations," Communication Quarterly 27 (Summer 1979).



a relationship to develop. "Although talking is a necessary condition for full relational development, it is not a sufficient condition. That is, if people do not talk to one another, the development of a relationship between them is highly unlikely."<sup>25</sup> However, if they do talk, what and how much is said will be greatly influential in determining whether the relationship will continue and whether it becomes a positive or negative relationship.<sup>26</sup>

In the developmental theory of interpersonal relationships advanced by Berger and Calabrese, it is stressed that in initial contacts between people there is a great deal of uncertainty present.<sup>27</sup> McCroskey and Richmond indicate that the reason for the uncertainty is that "neither person typically knows much of anything about the other, and both need and seek information about the other in order to form interpersonal impressions."<sup>28</sup>

Given this theoretical concept, one would expect that persons with a high degree of communication apprehension would have greater difficulty establishing and maintaining

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<sup>25</sup>

McCroskey and Richmond, "The Impact of Communication Apprehension on Individuals in Organizations," p. 56.

<sup>26</sup>

Ibid.

<sup>27</sup>

Charles R. Berger and Richard J. Calabrese, "Some Explorations in Initial Interaction and Beyond: Toward a Developmental Theory of Interpersonal Communication," Human Communication Research 1 (1975): 99-112.

<sup>28</sup>

McCroskey, "The Impact of Communication Apprehension," p. 56.

interpersonal relationships than those with a low degree of communication apprehension. The available research<sup>29</sup> supports this idea.

Hayes and Meltzer indicate the reason for this difficulty as being the perception of the quality of input<sup>30</sup> in any given situation. They claim a direct linear relationship between quantity and quality.

People who talk more are perceived to be more competent, attractive and sociable as well as exerting more leadership over others. These results have even been observed under experimental conditions where quality of communication was carefully controlled and manipulated, as well as in naturalistic settings.<sup>31</sup>

Because of the limited amount of input that high apprehensives provide, the quality of their contributions is questioned. The literature points out that high communication apprehensives are perceived to have lower competence, lower leadership, lower attractiveness, and lower sociability

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29

Michael D. Scott, James C. McCroskey, and Michael E. Sheahan, "Measuring Communication Apprehension," Journal of Communication 28 (1978): 104-111.

30

Donald P. Hayes and Leo Meltzer, "Interpersonal Judgements Based on Talkativeness: II. The Quality-Quantity Relationship," forthcoming.

31

Ibid.

32

than other people.

According to Hayes and Meltzer, these perceptions of

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others are socially learned stereotypes.

In the absence of strongly contradictory evidence, people assume that those who participate more make more worthwhile contributions and that those who participate less make less worthwhile contributions. Interpersonal evaluations are predicted on the observation of another person's verbal behavior.<sup>34</sup>

Causes. While the causes of communication apprehension

are not yet fully known, it is generally assumed that heredity

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does not play a significant part. It appears that the syn-

drome is a learned, socially reinforced behavior, usually

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beginning in early childhood. Such a condition is aggra-

vated through the parents' neglect or refusal to reinforce

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Representative studies in this area include the following: James C. McCroskey and Virginia P. Richmond, "The Effects of Communication Apprehension on the Perception of Peers," Western Speech Communication 40 (1976): 14-21; Velman J. Wenzlaff, "The Production of Leadership: A Consideration of Selected Communication Variables," M.S. thesis, Illinois State University, 1972; James C. McCroskey, John A. Daly, Virginia P. Richmond, and Barbara Cox, "The Effects of Communication Apprehension on Interpersonal Attractions," Human Communication Research 2 (1975): 51-65; Virginia P. Richmond, "The Relationship Between Trait and State Communication Apprehension and Interpersonal Perceptions During Acquaintance Stages," Human Communication Research 4 (1978): 338-349.

33

James and Meltzer, "Interpersonal Judgements."

34

Ibid.

35

James C. McCroskey and Lawrence R. Wheelless, Introduction to Human Communication (Boston: Allyn and Bacon, 1976): 80-90.

36

Ibid.



their children's verbal behavior.<sup>37</sup> For example, a quiet child is viewed in our society as "well-behaved", and thus any apprehensiveness is reinforced.<sup>38</sup> The end result is that even the moderately apprehensive child fails to receive intrinsic value or reward for expressing itself, making the act of communicating a negative experience. Such children<sup>39</sup> are likely to develop even higher levels of apprehension.

Armed with this behavioral pattern, the child enters school where teachers detect their reluctance to participate orally and reciprocate with low expectations of the individual. McCroskey and Daly found that "...teachers expect low communication apprehensive students, as opposed to highs, to do better in all academic subjects, to have a much more promising future in education, and to have a much better relationship with their peers."<sup>40</sup> Having translated this attitude to the students, the students' quality of work seemed to reflect the teacher's expectations.

Scott and Wheelless found that "...although high

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<sup>37</sup>  
McCroskey, "The Problem of Communication Apprehension in the Classroom."

<sup>38</sup>  
McCroskey and Wheelless, Introduction to Human Communication, p. 89.

<sup>39</sup>  
McCroskey, "The Problem of Communication Apprehension in the Classroom."

<sup>40</sup>  
James C. McCroskey and John A. Daly, "Teacher's Expectations of Communication Apprehensive Children in the Elementary School," Human Communication Research 3 (1976): 67-72.

communication apprehensives were having much more difficulty mastering the modules in their courses, low communication apprehensives sought help from tutors almost three times more often than highs."<sup>41</sup> They found that with those low communication apprehensives who sought outside help, such personalized instruction did not prove to be as effective as with high communication apprehensives.

In a descriptive study of high school seniors, Bashore found that the degree of communication apprehension was significantly negatively correlated to the individual's scores on the Illinois State High School Test, the verbal score on the Preliminary Scholastic Aptitude Test, and the verbal score on the College Entrance Examination Board Test.<sup>42</sup> These results were expected and did not contradict earlier research.

Keeping Bashore's results in mind, the findings of Wells and Lashbrook became particularly interesting. They indicate that high apprehensives interact less in small group situations and, when interaction does occur, provide less relevant information than low communication

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<sup>41</sup>

M.D. Scott and L.R. Wheelless, "An Exploratory Investigation of Three Types of Communication Apprehension of Student Achievement," unpublished paper, University of West Virginia, 1976.

<sup>42</sup>

David N. Bashore, "Relationships Among Speech Anxiety, I.Q., and High School Achievement," M.A. thesis, Illinois State University, 1971.



<sup>43</sup> apprehensives. They point out that the information itself is less relevant and not merely the perception of the information. Hamilton indicates that high apprehensives show more tension, less interest, and talk less in small groups than low apprehensives.<sup>44</sup> He also found that high apprehensives tend to avoid self disclosure more than low apprehensives.

In a continuation of small group studies, Sorenson and McCroskey found that within both zero-history and intact groups, high communication apprehensives interact much less frequently than low apprehensives.<sup>45</sup> These studies indicate that high communication apprehensives will simply not contribute to the interaction of small groups.

Perceptions. An additional block of research has focused on perception related to communication apprehension. While interpersonal attraction has been examined earlier, it again becomes significant when studying overall perception. McCroskey and Richmond investigated the effect of communication apprehension on interpersonal perceptions of communicators to

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Judith Wells and William B. Lashbrook, "A Study of the Effects of Systematic Desensitization of the Communication Anxiety of Individuals in Small Groups," paper presented to the Speech Communication Association Convention, New Orleans, 1970.

44

Paul R. Hamilton, "The Effect of Risk Proneness on Small Group Interaction, Communication Apprehension, and Self-Disclosure," M.A. thesis, Illinois State University, 1972.

45

Gail A. Sorensen and James C. McCroskey, "The Prediction of Interaction Behavior in Small Groups," paper presented to the Speech Communication Association Convention, New York, 1973.

determine the positive and negative perceptions toward both high and low apprehensives. They studied perceptions relating to source credibility, interpersonal attraction, homophily, academic success, and opinion leadership. Regardless of whether a subject was a high or low apprehensive himself, he perceived the low apprehensive target individual as more positive in all aspects except four of the eight categories of academic success. Even these variations were predictable areas as they dealt with intense study rather than inter-<sup>46</sup> action with other individuals.

To carry the study of perceptions of success further, Daly and McCroskey provided 196 college students with a list of 31 common occupations and asked them to rate how<sup>47</sup> desirable each occupation was for them. The occupations had previously been categorized as either high or low in communication requirements.

As expected, high CAs expressed a strong preference for occupations where communication requirements are low, while people with lower CA expressed a strong preference for occupations with high communication requirements. The subjects were also asked to identify the occupation which they planned to enter after graduation and to rate the amount of communication they thought that occupation would require.

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McCroskey and Richmond, "The Effects of Communication Apprehension."

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John A. Daly and James C. McCroskey, "Occupational Choice and Desirability as a Function of Communication Apprehension," Journal of Counseling Psychology 22 (1975): 309-313.



Again, the subjects were found to prefer occupations compatible with their CA level, high CAs reported planning to enter low communication occupations.<sup>48</sup>

Therefore, as a result of their communication apprehension, it appears that high apprehensives tend to self-select themselves into occupational roles that insure them comparatively fewer communication situations. McCroskey and Richmond indicate that this also usually insures them of "comparatively lower social status and lower economic standing. While this may be desirable for the organizations involved, whether it is good for the individuals is questionable."<sup>49</sup>

In a supportive study of group perceptions, Quiggens found similar attitudes:

High apprehensives were perceived by other group members to be less extroverted, less composed, and less task attractive than low apprehensives. Further, low apprehensive group members saw high apprehensives as less competent, and less socially attractive than other low apprehensives.<sup>50</sup>

He also indicated that high communication apprehensives are less likely to be used for opinion leadership than low

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Daly and McCroskey, "Occupational Choice." p. 311.

49

McCroskey and Richmond, "The Impact of Communication Apprehension," p. 58.

50

James G. Quiggens, "The Effects of High and Low Communication Apprehension on Small Group Credibility, Interpersonal Attraction, and Interaction," paper presented to the Speech Communication Association Convention, Chicago, 1970.

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apprehensives in a small group situation.

Its educational implications prompted McCroskey to describe communication apprehension as a serious handicap facing the children of today.<sup>52</sup> He has indicated that it affects not only the students but ultimately society, for the children eventually enter the labor force. The problem has been recognized, its boundaries defined. What remains is a concerted effort to teach apprehensives how to control their anxiety.<sup>53</sup>

As the research continues to evolve, studies which examine the effect that communication apprehension has on other modes of behavior have begun. There are indications that this "syndrome" may have further reaching implications than previously believed. Among these are the effects that communication apprehension may have on nonverbal communication.

### Proxemics

While there are numerous types of nonverbal communication, the scope of the current study limits its definition and examination to only one area. It is that area dealing with proxemics. E.T. Hall coined the term "proxemics" and

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Quiggens, "The Effects of High and Low Communication."

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James C. McCroskey, "The Effects of Communication Apprehension on Nonverbal Behavior." Communication Quarterly 24 (1976): 39-44.

53

Ibid.



defined it as "...the interrelated observations and theories of man's use of space as a specialized elaboration of culture."<sup>54</sup> On an interpersonal level, proxemics is more specifically defined by Hall as "...the study of how man unconsciously structures microspace -- the distance between men in conduct of daily transactions, the organization of space in his houses and buildings and ultimately the layout of his towns."<sup>55</sup>

In a more limited or specific sense, proxemics is examined in culturally specific interpersonal situations.<sup>56</sup> Pike differentiates between what he calls an internal observation of proxemic behavior and an external one. An internal or emic approach is directed toward a single, culturally specific system of behavior.<sup>57</sup> An external or etic approach "provides an initial base from which the observer can begin his analysis of the system"<sup>58</sup> of communication behavior as it occurs around the world.

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Edward T. Hall, The Hidden Dimension, (New York: Random House, 1966): 1.

55

Edward T. Hall, "A System for the Notation of Proxemic Behavior," American Anthropologist 65 (1963): 1003.

56

K.L. Pike, "Etic and Emic Standpoints for the Description of Behavior," Communication and Culture, edited by A.G. Smith (New York: Holt, Reinhart and Winston, 1966).

57

Ibid.

58

O.M. Watson, "Directions in Proxemic Research." The Journal of Communication 22 (1972): 443-459.

Current studies indicate that proxemic behavior is culture specific and will therefore vary between cultures. Dodd tells us that these variations are important when considering communication across cultural boundaries. In fact, Watson points out that most studies deal with proxemic behavior interculturally as it relates to the culture's specific use of microspace.

Research indicates that invasions of personal space cause varied reactions among individuals. Observed responses include such reactions as "flight, changes in body orientation, reduced eye contact and shaded eyes, compensatory behaviors such as pulling elbows or placing a hand between self and the experimenter, erecting barriers with clothing and books, and under threatening conditions, increased eye contact." Heston goes on to point out that these are reactions made by subjects based upon the

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59

Marianne LaFrance and Clara Mayo, Moving Bodies: Non-verbal Communication in Social Relationships, (Belmont, CA.: Brooks/Cole, 1978); E. Bersheid and E.H. Walster, Interpersonal Attraction, (Addison-Wesley Pub., 1969); A. Barbara Domisick, "Nonverbal Communication," Journal of Communication, (1963): 166-173; Judee K. Heston, "Effects of Space Invasion and Anomia on Anxiety, Nonperson Orientation and Source Credibility," Central States Speech Journal 25 (1974): 19-27.

60

Carley Dodd, Perspectives on Cross Cultural Communication, (Dubuque, Iowa: Kendall/Hunt Publishing Co., 1977).

61

Watson, "Directions in Proxemic Research."

62

Heston, "Effects of Space Invasion."

63

Ibid., p. 19.

individual's perception of the intruder and the intruder's intention. She tested subjects' reactions to personal space invasions while controlling what she calls the anomia-alienation syndrome (the tendency one has towards staying away from others in a social context).

Heston found that there seems to be no relationship between high anomia and low anomia subjects and reactions to personal space invasions, contrary to previous research.<sup>64</sup> However, she indites her methodology, citing a too small sample and a too suspicious setting.

While Heston and others have dealt with certain personality traits in relation to proxemic behavior, others have examined the more basic reaction of personal space establishment. The hypothesis dealing with affiliation as a function of proximity and body orientation was supported by the work of Argyle and Dean.<sup>65</sup> Little went a step further in an attempt to establish the effects of affect and familiarity on distance. His results supported the earlier findings of Hall in that "friends are seen as interacting

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E. Freidenberg, The Vanishing Adolescent, (Boston: Beacon Press, 1959); P.W. Jackson, "School Achievement and Alienation: Notes on the Psychology of Classroom Failure," Guidance in American Education 2 (1965): 140-154; M. Seeman, "On the Meaning of Alienation," American Sociological Review 24 (1959): 783-791; R.J. Shoemaker, "The Phenomenon of Dehumanization," Pennsylvania Psychiatric Quarterly 8 (1968): 3-18.

65

Michail Argyle and Janet Denn, "Eye Contact, Distance, and Affiliation," Sociometry 28 (1969): 289-304.



closer together than acquaintances, and acquaintances  
<sup>66</sup>  
 closer than strangers."

In a study of proxemics in transracial dyads, <sup>67</sup> Whitsett supported the previous research in that no significant differences exist "in body orientation between either the black/  
<sup>68</sup>  
 black, black/white, white/white, or white/black dyads."

He also supported Hall <sup>69</sup> in determining a significant difference between the overall mean distance of the two subject groups. His results were significant in that not only were the distances maintained different, but also they fell within the informal distance parameters used in normal conversation situations. However, while both groups fell within these parameters, Whitsett found that only the:

Blacks' mean distance falls within what Hall calls the close neutral range (20 inches to 36 inches) associated with soft voice and personal subject matter. Distances greater than this were typically associated with communication of a nonpersonal matter.<sup>70</sup>

In a series of cross-cultural studies dealing with

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<sup>66</sup>  
 Kenneth B. Little, "Cultural Variations in Social Schemata," Journal of Personality and Social Psychology 10 (1968): 1-7.

<sup>67</sup>  
 Gavin C. Whitsett, "Eye Contact, Distance and Body Orientation in Transracial Dyads," unpublished paper, Western Kentucky University, (1974).

<sup>68</sup>  
Ibid., p. 12.

<sup>69</sup>  
 Hall, The Hidden Dimension, p. 53.

<sup>70</sup>  
 Whitsett, "Eye Contact, Distance and Body Orientation," p. 14.



culturally related differences in personal space and other aspects of proxemic behavior, Hall found that culturally defined distances in conversation, when mixed, with males and females, caused a disruption in the communication process which led to negative interpersonal perceptions on the part of the two people involved.<sup>71</sup> His results indicated that the cultural proxemic relationship of one individual will be different from the proxemic establishment of someone from another culture.

Rosegrant and McCroskey have reported on the establishment of interpersonal distance between black and white, male and female dyads in an interview situation.<sup>72</sup> Their study showed differential effects of race and sex. They indicated that both sex and race have significant effects on distances from a male interviewer than from a female interviewer. Females, on the other hand, established close distances with both male and female interviewers. The second significant finding dealt with race of subjects and sex of subjects:

Both black and white male subjects established greater distance than black female subjects. White female subjects were in between

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<sup>71</sup>

Edward T. Hall, "The Silent Language in Overseas Business," Harvard Business Review 38 (1960): 87-96.

<sup>72</sup>

Teresa J. Rosegrant and James C. McCroskey, "The Effects of Race and Sex on Proxemic Behavior in an Interview Setting," Southern Speech Communication Journal 40 (1975): 408-420.

these two extremes and did not differ significantly from any group of subjects.<sup>73</sup>

The third significant proxemic establishment was between the race of the interviewers and the race of the subjects. While white subjects maintained a greater distance from black interviewers than white interviewers, black subjects made no differential establishments.<sup>74</sup> While their study dealt with an interview situation, the findings corroborated those of Whitsett, who studied them on an interpersonal level.

### Self-esteem

While the primary focus of the current study deals with the relationship between Communication Apprehension and Proxemics, an additional relationship between Communication Apprehension and Self-esteem will also be examined. Self-esteem has been defined as "the view a person has of him or herself in terms of overall worth."<sup>75</sup> This attitude is reflected in a person's behavior. Individuals with low self-esteem tend to lack confidence in their own ability.<sup>76</sup> They continually view their competence negatively on almost every task, expecting failure in their actions.

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<sup>73</sup>

Rosegrant and McCroskey, "The Effects of Race and Sex."

<sup>74</sup>

Ibid.

<sup>75</sup>

McCroskey and Wheelless, Introduction to Human Communication, p. 130.

<sup>76</sup>

Ibid.

The link between communication apprehension and self-esteem has been established in previous literature.<sup>77</sup> Those experiencing a high degree of self-esteem tend to be low in apprehension. They are more confident in themselves, expect to succeed in most situations and expect to communicate well with others. Persons with low self-esteem tend to be the followers in any communication system.<sup>78</sup> They generally experience a high degree of communication apprehension, and when placed in a social situation, tend to be dominated by those with high self-esteem.<sup>79</sup>

In an attempt to analyze the relationship between self-esteem and persuasibility in communication situations, Spillman used seventy-four students who demonstrated a discrepancy in self report scales on freedom and equality.<sup>80</sup> She concludes that those with high self-esteem will defend their attitude against attack more often than those with low self-esteem.<sup>81</sup>

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<sup>77</sup>

J.C. McCroskey, C.E. Larson, and M.L. Knapp, An Introduction To Interpersonal Communication (Englewood Cliffs, N.J.: Prentice-Hall, 1971): 71.

<sup>78</sup>

Ibid., p. 73.

<sup>79</sup>

McCroskey and Wheelles, Introduction To Human Communication, p. 131.

<sup>80</sup>

Bonnie Spillman, "The Impact of Value and Self-Esteem Messages in Persuasion," Central States Speech Journal 30 (Spring 1979): 67-74.

<sup>81</sup>

Ibid., p. 72.



Based upon the findings of Spillman, it can be concluded that the higher the self-esteem of an individual, the greater the amount of communication that person will initiate. Using this finding, with those indicating that high apprehensives initiate fewer communication acts than low apprehensives, suggests that a negative correlation between self-esteem and communication apprehension does exist.

### Dogmatism

Along with self-esteem, the personality trait of dogmatism will be examined with relation to communication apprehension. Dogmatism has been defined by Rokeach as the "open<sup>82</sup> or closed-mindedness" of an individual. Dogmatic individuals are ideologically rigid and tend to be "highly inflexible in their communication behavior and quite intolerant<sup>83</sup> of those who hold contrary views." Another term which describes dogmatics is "authoritarian" due to the unusually high respect they hold for those whom they perceive to be authorities. An individual holding such an authority position is the only individual with the ability to change the dogmatic's attitude. Dogmatic individuals are characterized by feelings of anxiety and insecurity.<sup>84</sup>

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82

Milton Rokeach, The Open and Closed Mind (New York: Basic Books, 1960).

83

McCroskey and Wheelless, Introduction To Human Communication, p. 130.

84

Ibid., p. 130.



Like the highly apprehensive, the dogmatic will tend to conform to group influence attempts more than to an individual attempt, unless the individual is an authoritarian source.<sup>85</sup> This conforming to a group attitude is the same reaction the high apprehensive will use in a group. The lack of confidence allows them to be swayed in their opinion by the group.

### Rationale

While self-esteem and dogmatism will be examined as to their relationship with communication apprehension, the focus of the current study deals with proxemics and communication apprehension. Although the research studies cited have examined spatial relationships, very little research links the effects of communication apprehension on an individual's use of spatial distance. However, several studies exist which examine some aspects of proxemics and communication apprehension.

Two of the earliest studies dealing with nonverbal behaviors attempted to establish the relationship between communication and (1) seating position in small groups<sup>86</sup> and

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<sup>85</sup>

Rokeach, The Open and Closed Mind.

<sup>86</sup>

A. Paul Hare and Robert F. Bales, "Seating Position and Small Group Interaction," Sociometry 26 (1963): 480-486.

87

(2) housing proximity. Both studies were concerned with the stimulation of communication activity and not nonverbal behavior. Both studies were statistically significant, but do not go far enough to be of any use in the present endeavor. The real impact of nonverbal behavior was not realized until Strodbeck and Hook found that in small group communication settings, certain seats are perceived as "leadership" positions.<sup>88</sup>

As an extension of their work, Weiner found that high apprehensives avoided the seats in a small group setting that were perceived as leadership or dominant positions,<sup>89</sup> while low apprehensives would select them. His study included college students enrolled in a basic communication course. They were asked to complete the Personal Report of Communication Apprehension (PRCA) developed by McCroskey<sup>90</sup> and also to indicate their personal preference of seats within four configurations representing five person groups. After indicating their own preference, the subjects were

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Leon Festinger, Stanley Schachter, and Kurt Back, Social Pressures in Informal Groups: A Study of Human Factors in Housing, (New York: Harper & Row, 1950).

88

Fred L. Strodbeck and L. Harmon Hook, "The Social Dimensions of Twelve-Man Jury Table," Sociometry 24 (1961): 397-415.

89

Allen N. Weiner, "Machiavellianism as a Predictor of Group Interaction and Cohesion," M.A. thesis, West Virginia University, 1973.

90

McCroskey, "Measures of Communication-Bound Anxiety."

then asked to point out the seat they felt would have the most influence over the group as a whole. Their indications matched those of previous research.

Weiner's hypothesis was supported for all four configurations taken together and for each taken separately. "High communication apprehensives tended to avoid influential seats while low communication apprehensives tended to seek them out."<sup>91</sup> These results indicate that due to seating choice, high communication apprehensives will have less of an influence on a groups' attitude and action than members who are low communication apprehensives. Weiner indicts his study somewhat by several references to experimenter bias. If true, then much more research is needed to establish the validity of his results.

Such findings as these indicate that some relationship exists between communication apprehension and nonverbal communication. However, previous research has been limited to a comparison between communication apprehension and verbal communication behavior. In fact, beyond a call for additional research concerning the impact of communication apprehension upon spatial distance<sup>92</sup> only one study exists in the literature.

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Weiner, "Machiavellianism."

92

McCroskey, "The Effects of Communication Apprehension on Non-Verbal Behavior."



Cardot and Dodd investigated the effects of communication apprehension upon proxemic relationships in dyads.<sup>93</sup> Ninety subjects were randomly paired to create three experimental groups corresponding to high-high, high-low, and low-low communication apprehension dyads as determined with the PRCA. Results revealed that low-low dyads maintained significantly more interpersonal distance than the high-low dyads who in turn kept significantly more interpersonal distance than the high-high dyads.<sup>94</sup> While the results obtained were statistically significant, Cardot and Dodd called for more research and a more closely controlled design. They cited problems in their method of establishing the dyads.

The present study offers several possible benefits. The first is an organized synthesis of extant literature dealing with communication apprehension and nonverbal communication relating to proxemics. The second is that the significance between communication apprehension and interpersonal relationships is accepted but not fully understood. And finally, the study seeks to examine specifically the relationship between communication apprehension and proxemic establishments in a controlled experimental setting.

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Joe Cardot and Carley Dodd, "Communication Apprehension as a Predictor of Proxemic Establishment," paper presented to The Speech Communication Association Convention, San Antonio, 1979.

94

Ibid.

The present research effort is therefore proposed upon the basis of the above benefits. It would appear to be a justifiable endeavor.

### Hypotheses

The obvious lack of research in the area of communication apprehension and proxemics, and the apparent relationship between the two, justifies the current study in that the relationship is not fully understood. Since this study focuses upon the differential effects of proxemics and communication apprehension, two key concerns result in the following hypotheses:

- H1: There will be significant differences in personal space establishments in comparisons among high-high, high low, and low-low communication apprehension dyads.

In the only other study examining this relationship, Cardot and Dodd found a statistical difference existing such that <sup>95</sup> $p < .05$ . However, due to the sample size and experimental design utilized in the Cardot and Dodd study, the current endeavor utilizes a nondirectional hypothesis to allow for a conservative analysis.

- H2: There will be significant difference in personal space establishments in comparisons between male/male and female/female dyads within each communication apprehension grouping.

The Cardot and Dodd study indicated that a difference might exist.<sup>96</sup> However, their sample size was too small for a statistical analysis. Based upon the literature cited which states that sex has an effect on distance,<sup>97</sup> this hypothesis becomes important. Once again a nondirectional approach is taken due to the lack of extant research making this specific comparison. As indicated above, females usually stand closer together than males. However, when examining for an interaction effect among the groups, the degree of communication apprehension may be an overriding factor.

Two other personality traits will be examined in this study with communication apprehension. Due to the nature of the method utilized to determine the level of apprehensiveness (to be discussed later), it was possible to obtain self-reports from each subject on both Self-esteem and Dogmatism. From this information, two additional hypothesis may be tested:

- H3: There will be a significant negative correlation between Communication Apprehension and Self-esteem.

Analysis of the literature dealing with perceptions indicates a strong probability that a negative relationship exists. The rationale is simply that those persons who are more confident in their own abilities tend to be more extroverted than those who are less confident. This is in keeping with the

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<sup>96</sup>

Cardot and Dodd, "Communication Apprehension."

<sup>97</sup>

Rosegrant and McCroskey, "The Effects of Race and Sex."



known relationship McCroskey indicates: "In the case studies of Phillips it was frequently observed that high communication apprehensive individuals also evidenced a lack of self-esteem and self-acceptance."<sup>98</sup> Another study by Lustig found a  $-.48$  correlation between the PRCA and self-esteem.<sup>99</sup> In the same study, Lustig found a  $-.52$  correlation between the PRCA and self-acceptance (a construct similar to self-esteem). Yet another study found multiple correlations of  $-.59$  and  $-.63$  with two samples of college students and  $-.72$  with 211 federal employees.<sup>100</sup>

H4: There will be a significant correlation between Communication Apprehension and Dogmatism.

Unlike self-esteem, this personality trait has not been correlated with communication apprehension in enough studies to allow a clear cut directional hypothesis. To date, there are but two known studies which indicated a significant correlation. Both were published in 1976. Rosenfeld and Plax used the Radicalism-Conservatism scale (along with others)

<sup>98</sup>

James C. McCroskey, "Validity of PRCA as an Index of Oral Communication Apprehension," Communication Monographs 45 (1978): 199.

<sup>99</sup>

Myron W. Lustig, "Verbal Reticence: A Reconceptualization and Preliminary Scale Development," paper presented to the Speech Communication Association Convention, Chicago, 1974.  
<sup>100</sup>

James C. McCroskey, John A. Daly, Virginia P. Richmond, and Raymond L. Falcoine, "Studies of the Relationship Between Communication Apprehension and Self-esteem," Human Communication Research 3 (1977): 269-277.

on 219 college students and found a .16 correlation with  
 Communication Apprehension.<sup>101</sup> McCroskey, Daly and Sorensen,  
 again in 1976, also found a significant correlation (.19)  
 between dogmatism and communication apprehension.<sup>102</sup> Their  
 study dealt with 21 personality characteristics, 14 of which  
 were found to correlate significantly.

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Lawrence B. Rosenfeld and Timothy G. Plax, "Personality Discriminants of Reticence," Western Speech Communication 40 (1976): 22-31.

102

James C. McCroskey, John A. Daly and Gail A. Sorensen, "Personality Correlates of Communication Apprehension," Human Communication Research 2 (1976): 376-380.

## CHAPTER II

### METHODOLOGY

#### Subjects

One hundred and eighty subjects were drawn after a screening of some 1200 students over a four semester period. All students had been enrolled in a basic speech course. From this pool of subjects, only those persons who scored one standard deviation above or below the hypothetical mean on the Personal Report on Communication Apprehension (PRCA)<sup>1</sup> were chosen. Subjects ranged in ages from 17-24 years. Due to the previous link with culture, no ethnic individuals were utilized. Also, no male-female dyads were established. Sample breakdown by sex resulted in ninety males and ninety females. The only other constraint was that the pair not be acquainted with one another prior to the experiment. The one hundred and eighty subjects were comprised of ninety high apprehensives (forty-five male and forty-five female) and ninety low apprehensives (forty-five male and forty-five female).

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<sup>1</sup> James C. McCroskey, "Validity of PRCA as an Index of Oral Communication Apprehension," Communication Monographs 45 (1978): 192-203.



### Procedures

All subjects were paired into dyads to create three groupings. The first group contained thirty dyads of high communication apprehensives, fifteen male/male and fifteen female/female. The second contained thirty dyads of low communication apprehensives, again, fifteen male/male and fifteen female/female. The final group was comprised of thirty dyads, each one containing both a high and a low communication apprehensive. Once again, the third group had fifteen male/male and fifteen female/female dyads.

Subjects were told that the experiment was to measure verbal interaction and that they would be alone in a room to get to know as much as possible about each other in the time allowed (five minutes). The room contained usable chairs or desks but the subjects were told to just stand. Observers behind a two-way mirror measured the physical distance established in each dyad.

Measurement did not take place until after sixty seconds of warming up time had elapsed. Distances were then taken over the next sixty seconds as a trained observer noted spatial locations of each dyad based on a pre-measured floor grid.

### Variables and Measuring Instruments

Independent Variable. The present study utilized only one independent variable for analysis, Communication

Apprehension, as determined by McCroskey's Personal Report of Communication Apprehension (PRCA) (see Appendix C). As defined earlier, communication apprehension is a broad based fear of communicating. McCroskey's measure, the PRCA<sup>2</sup> was introduced in 1970. Since that time, it has been tested and used on numerous occasions. The scale's validity and reliability are reviewed in Communication Monographs, 1978. McCroskey examines all questions relating to the scale and states that:

Taken as a group, the observed correlations between the PRCA and other personality indices suggest validity for the PRCA. Where moderate relationships should be expected, these have been observed. Where a high relationship should be expected, this also has been observed.<sup>3</sup>

The internal reliability for the 25 item scale (the one used in this study) has ranged from .92 to .96. Test-retest reliability was .82.

However, there is one study which suggests the possibility of disarray of PRCA scores when the subject anticipates a speech performance. Beatty, Behnke, and McCallum indicate that the PRCA "actually yields scores which vary from situation to situation."<sup>4</sup> The question posed is that

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<sup>2</sup> James C. McCroskey, "Measures of Communication-Bound Anxiety," Speech Monographs 37 (1970): 269-277.

<sup>3</sup> McCroskey, "Validity of PRCA," p. 200.

<sup>4</sup> Michael J. Beatty, Ralph R. Behnke, and Karen McCallum, "Situational Determination of Communication Apprehension," Communication Monographs 45 (1978): 190.

of rank stability of scores. However, McCroskey shows that while the degree (score) may vary somewhat, the overall apprehensiveness can be accurately determined.<sup>5</sup> It is upon this basis that the measure is accepted for use in the present study.

Dependent Variables. Within the context of the present study, the following three dependent variables were examined.

1) Proxemics: Specifically defined as the distance between men in the conduct of daily transactions. It is operationally defined as the distance in inches between members of each of the ninety dyads (see Procedures).

2) Self-esteem: Brooks and Emmert explain that:

(Self-esteem) comes about as a result of our interaction with others; but it is not the being categorized or described by others that is involved in the process. Rather, it is the being rewarded or not rewarded (even punished at times), the being praised or demeaned, or the being accorded prestige that creates one's self esteem. When others reward us, accord us prestige or worth, or praise and like us, then we like ourselves, value ourselves, and generally regard ourselves favorably. This is self-esteem. It is a powerful, powerful force inside us that affects our interpersonal communication behavior.<sup>6</sup>

The subjects' self-esteem was determined through the use

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McCroskey, "Validity of PRCA."

6

William D. Brooks and Philip Emmert, Interpersonal Communication (Dubuque, Iowa: Wm. C. Brown Co., 1976): 198.



of a ten-item scale designed by Dulaney.<sup>7</sup> Use of that scale (see Appendix A) was justified by Dulaney when he stated that:

As a very general index of the validity of such a scale, a pilot test group of basic speech students (N=25) completed the scale and their scores were correlated with scores generated from their instructor's estimation of the degree of esteem each subject had. The validity coefficient attained was .53 ( $p=.003$ ). The inter-item reliability of the ten-item scale for the pilot group was .81 ( $p<.05$ ), while the inter-item reliability among experimental subjects was .70 ( $p<.05$ ).<sup>8</sup>

The scale was further tested by Paine, who found the inter-item reliability to be .80 ( $p<.01$ ).<sup>9</sup>

The current researcher likewise tested the inter-item reliability of this scale for the experimental group. The inter-item reliability was found to be .89 ( $p<.0001$ ).

3) Dogmatism: The general authoritarianism or closed-

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<sup>7</sup> Earl F. Dulaney, "The Effects of Order of Presentation in a Two-Sided Communication, Relevance of Topic, and Receiver's Sex, Self-esteem, and Dogmatism upon Attitude Change and Recall," unpublished M.A. thesis, Western Kentucky University, 1978. Dulaney designed this scale by selecting items from a number of existing scales included in: John P. Robinson and Phillip R. Shaver, Measures of Social Psychological Attitudes, (Ann Arbor: Institute for Social Research, 1973): 76-118.

<sup>8</sup> Dulaney, "The Effects of Order," p. 58. The scale was designed by selecting items from a number of existing scales included in Robinson and Shaver, Measures, p. 76-118. The items were taken from scales by Janis and Field, p. 76-80; Rosenber, p. 81-83; Coopersmith, p. 84-87; Berger and Phillips, p. 107-112; and Worchel, p. 113-118.

<sup>9</sup> Richard E. Paine, "Variables Influencing Success or Lack of Success in Forensic Competition," unpublished M.A. thesis, Western Kentucky University, 1979.

mindedness of an individual. A forty-item scale designed to measure this personality trait was created by Rokeach in 1956.<sup>10</sup> Later researchers reduced the scale from forty-items to twenty-items, then fifteen-items and finally ten-items.<sup>11</sup> The ten-item scale (see Appendix B) obtained a reliability coefficient of .66. The validity was checked two times by correlating the short scale with the original forty-item scale. The two samples resulted in reliability coefficients of .88 and .79.

The scale was then tested by Dulaney who obtained an alpha level of .58.<sup>12</sup> Paine subjected his data to an inter-item reliability test and found .69 (p<.01).<sup>13</sup>

The current researcher subjected the data obtained on this scale during the course of the present research to an inter-item reliability test. The inter-item reliability for the current use of the scale was .80 (p<.0001).

All three of these variables were examined in order to determine the degree to which they correlated with communication apprehension.

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Milton Rokeach, "Political and Religious Dogmatism: An Alternative to the Authoritarian Personality," Psychological Monograph 43 (1956): 70.

11

Robinson and Shaver, Measures, p. 433-435.

12

Dulaney, "The Effects of Order," p. 58.

13

Paine, "Variables Influencing Success," p. 70.

### Statistical Analysis

The nature of the first two research hypotheses indicated the selection of a 3x2 analysis of variance. This was used to detect overall significant differences. Appropriate t-testing was then used to compare specific call differences.

The third and fourth hypotheses required separate analysis from the first two. Since they required the determination of whether or not a correlation exists between the dependent and independent variables, a bivariate correlation analysis was used.

Post-hoc analysis of the results made possible a multiple regression analysis. This technique allows the researcher to predict the actual correlation between variables. The three statistics of most importance are: (1) the multiple R, which is an index of the explained variance, (2) the simple R, a correlation of each independent variable with the dependent variables, and (3) the Beta, which indicates the actual rank order of importance for each variable.



## CHAPTER III

### RESULTS

This chapter reports the answers to the research hypothesis presented at the end of Chapter I. These results will be divided as they pertain to the variables examined. The first section of this chapter analyzes the first two hypotheses dealing with the relationship between communication apprehension and proxemic behavior. The second section reports on the correlation between communication apprehension and self-esteem and then the correlation between communication apprehension and dogmatism. The third section presents the results of a stepwise multiple regression analysis obtained by computer using the Statistical Package for the Social Sciences (SPSS). The procedure established a rank-order for the predictor variables in that it selects the variable which by itself is best able to discriminate between the two groups being examined. It next chooses the variables which in combination with the first variables selected is best able to create an equation designed to discriminate between the two groups. The procedure continues with variables being chosen consecutively which will

best combine with those already identified so as to create the most powerful discriminant model possible with the variables under consideration.

### Communication Apprehension and Proxemics

#### Hypothesis 1

There will be significant differences in personal space establishments in comparisons among high-high, high-low, and low-low communication apprehension dyads.

The analysis of variance revealed that an overall difference exists among the three communication apprehension groups ( $F=18.498$ ,  $df=5/173$ ,  $p<.001$ ) as indicated in table 1. Such a finding resulted in the acceptance of hypothesis 1. Subsequent comparisons between groups utilizing Tukey's HSD test resulted in significant differences existing between the low-low and high-low dyads; the low-low and high-high dyads; and the high-low and high-high dyads, as indicated in table 2. The table reveals that the low-low dyads maintain significantly more spatial distance (36.19 inches) than the high-low dyads (25.15 inches) who in turn were significantly greater than the high-high dyads (16.61 inches).

It should also be noted that the group containing the high-low communication apprehension dyads not only fell between the high-high and the low-low dyadic groups, but that there also existed a distance of one and a half and one inch, respectively, which separated each group. Table 3 indicates

Table 1

Analysis of Variance:  
Proxemics by Sex and Communication Apprehension

Source	ss	df	ms	F	p <
<b>Main Effects</b>					
Sex	659.406	1	659.406	117.052	.001
Comm. App.	11834.055	2	5917.027	1050.335	.01
<b>2-Way Interactions</b>					
Sex/Comm. App.	208.411	2	104.205	18.498	.001
Residual	974.590	173	5.633		
Total	13498.813	178	75.836		



Table 2

Comparison of Group Distance Means*	
Group	Mean
Low-Low	36.19" <sub>a</sub>
High-Low	25.15" <sub>b</sub>
High-High	16.62" <sub>c</sub>

\*dissimilar subscript indicates significant difference

Table 3

Comparative Distance Ranges of Dyadic Groups

Group	Distances in Inches
High-High	12" _____ 20"
High-Low	21.5" _____ 29"
Low-Low	30" _____ 51"

the perimeters within each group and establishes each as homogeneous. The nature of each group is significant in that the greatest distance established by any high-high dyad (20 inches) was a full ten inches less than the closest distance established by any low-low dyad (30 inches).

Table 6 reveals the correlation coefficient obtained. It indicates that a negative relationship exists between communication apprehension and proxemics (-.71).

### Hypothesis 2

There will be significant differences in personal space establishments in comparisons between male/male and female/female dyads within each communication apprehension grouping.

Tukey's HSD test revealed that a significant difference exists between male/male and female/female dyads within two of the three groups. Table 4 indicates that the critical difference is 1.75 such that  $p < .05$ . Since the critical difference is used to compare mean scores, a difference resulted in both the low-low and the high-low communication apprehension dyads. However, no significant difference exists between male/male and female/female dyads within the high-high grouping. It appears that the personality trait of communication apprehension overrides the sex difference on proxemic establishment, since no sex difference occurred in the high-high dyads.

The result is further highlighted in table 5. The comparison indicates that as the level of apprehension decreases,



Table 4

Comparison of Group Means by Sex\*

Sex	Dyadic Groups		
	L/L	L/H	H/H
Female	32.92" <sub>a</sub>	23.42" <sub>b</sub>	15.84" <sub>c</sub>
Male	39.57" <sub>d</sub>	26.77" <sub>e</sub>	17.30" <sub>c</sub>

critical difference ( $p < .05$ ) = 1.75 (Tukey's HSD Test)

\*dissimilar subscript indicates significant difference

Table 5

Comparative Ranges of Dyadic Groups	
Group	Distances in Inches
High-High	
Female	12" _____ 20"
Male	14.5" _____ 20"
High-Low	
Female	21.5" _____ 26"
Male	24" _____ 29"
Low-Low	
Female	30" _____ 36"
Male	35" _____ 51"

the overlap in distance between male/male and female/female dyads decreases until virtually no overlap remains.

### Self-esteem and Dogmatism

The third and fourth hypotheses dealt with the correlations between communication apprehension and self esteem and communication apprehension and dogmatism. While the statistics utilized gave correlations with proxemics, neither hypothesis was concerned with that finding.

#### Hypothesis 3

There will be a significant negative correlation between Communication Apprehension and Self-esteem.

The third hypothesis was supported by the results of the data obtained through the establishment of correlation coefficients. Table 6 indicates that a negative correlation does exist between communication apprehension and self-esteem ( $-.55$ ) ( $p < .05$ ).

#### Hypothesis 4

There will be a significant correlation between Communication Apprehension and Dogmatism.

The fourth hypothesis was supported with a suprisingly high correlation. Table 6 reveals that dogmatism has a positive relationship with communication apprehension. The correlation coefficient established was  $.46$  ( $p < .05$ ).



Table 6

Variable Correlations					
	Sex	Proxemics	Self-esteem	Dogmatism	Comm. App.
Sex	1.00				
Proxemics	0.17	1.00			
Self-esteem	-.01	0.43*	1.00		
Dogmatism	0.21	-0.36	-0.64*	1.00	
Comm. App.	—	-0.71**	-0.55*	0.46*	1.00

\* =  $p < .05$ \*\* =  $p < .01$

### Regression Analysis

As indicated at the beginning of chapter III, all variables examined were subjected to a stepwise multiple regression analysis. Multiple regression "is a general statistical technique through which one can analyze the relationship between a dependent or criterion variable and a set of independent or predictor variables."<sup>1</sup> The general form of the standardized regression is  $Y' = B_1X_1 + B_2X_2 + B_3X_3 + \dots B_kX_k$ , where  $Y'$  is the estimated value for  $Y$ ,  $B_i$  are the regression coefficients, and  $X_i$  are the predictor variables.

The results of the analysis are reported in tables 7 and 8. Table 7 uses communication apprehension as the criterion variable and class, sex, self-esteem and dogmatism as the predictor variables. The standardized stepwise multiple regression coefficient, reflecting the relative importance of all the variables when considered together is as follows:

$$Y = -0.44023 (\text{Self-esteem}) + 0.20728 (\text{Dogmatism}) + 0.09676 (\text{Class}) - 0.01381 (\text{Sex})$$

When this equation is employed to categorize subjects, it results in a rank ordering of the predictor variables. This indicates that only two of the variables are of any consequence in predicting the degree of communication apprehension: self-esteem and dogmatism. The variables of class and

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<sup>1</sup> Norman Nie, C. Hadlai Hull, Jean G. Jenkins, Karin Steinbrenner, and Dale H. Brent, Statistical Package for the Social Sciences (New York: McGraw-Hill Book Company, 1975): 321.

Table 7

Stepwise Multiple Regression  
Criterion Variable: Communication Apprehension

Variable	Multiple R	R Square	RSQ Change	Simple R	Beta	F
Self-esteem	0.572	0.327	0.327	-0.572	-0.440	26.744**
Dogmatism	0.589	0.347	0.020	0.502	0.207	5.769*
Class	0.597	0.357	0.009	0.021	0.097	2.500
Sex	0.597	0.357	0.000	0.071	-0.014	0.049

\* =  $p < .05$ \*\* =  $p < .01$



Table 8

Stepwise Multiple Regression  
Criterion Variable: Proxemics

Variable	Multiple R	R Square	RSQ Change	Simple R	Beta	F
Comm. App.	0.709	0.502	0.502	-0.709	-0.686	120.393**
Sex	0.742	0.551	0.049	0.169	0.229	19.688*
Self-esteem	0.744	0.553	0.002	0.429	0.040	0.286
Dogmatism	0.744	0.554	0.001	-0.357	-0.031	0.186

\* =  $p < .01$ \*\* =  $p < .001$

sex are of very limited value due to the sampling method and proxemic experiment.

Table 8 uses proxemics as the criterion or dependent variable and sex, communication apprehension, self-esteem and dogmatism as the predictor variables. Once again the general formula is used. The resulting multiple regression coefficient is obtained as follows:

$$Y = -.68605 \text{ (Communication Apprehension)} + \\ 0.22928 \text{ (Sex)} + 0.04048 \text{ (Self-esteem)} - \\ 0.03149 \text{ (Dogmatism)}$$

The rank ordering of these predictor variables indicates that once again only two are statistically significant: communication apprehension and sex. The other two variables (self-esteem and dogmatism) are of little value.

### Summary

This chapter is designed to present the results of the study. The analysis revealed several interesting findings:

(1) Communication apprehension is an accurate predictor of proxemic establishment. It was found that as the degree of apprehension increased, the distance established decreased. The relationship indicated was negative (-.71).

(2) Sex is an accurate predictor of proxemic relationships. In two of the three groups, females stood closer together than males. However, once the level of communication apprehension reaches the point that it is statistically significant (one standard deviation above the hypothetical mean),

the sex variable is overridden by the apprehension variable.

(3) A negative correlation exists between communication apprehension and self-esteem. The correlation obtained was  $-.57$ .

(4) A positive correlation exists between communication apprehension and dogmatism. The correlation obtained was  $.50$ .

(5) By determining the rank-order of predictor variables for communication apprehension, self-esteem emerges as the most important followed by dogmatism.

(6) By determining the rank order of predictor variables for proxemics, communication apprehension emerges as the most significant.

The following chapter is devoted to a discussion of the results.



## CHAPTER IV

### DISCUSSION, IMPLICATIONS, AND CONCLUSIONS

The previous chapter dealt with a description of the results. This chapter focuses on the implications and conclusions of the results based upon a discussion of the hypotheses presented in the previous chapters.

#### Hypothesis 1

The first hypothesis sought to determine the relationship between communication apprehension and proxemic establishment. As the results indicate, communication apprehension clearly predicts, in this study, an inverse relationship ( $-.71$ ). As the level of communication apprehension increases, the interpersonal distance established between members of the dyads decreases. While this same finding surprised Cardot and Dodd, it appears to be a logical event when one considers the characteristics of individuals who experience communication apprehension.

In an ad-hoc observation, Cardot and Dodd found that 47 percent of the dyads within the high-high group conducted conversations that were virtually inaudible through

the laboratory non-directional microphones. While effects in the current study were not as pronounced, it experienced a similar observation in 42 percent of the high-high dyads. By contrast, the low-low communication apprehensive dyads were quite audible. This observation is in keeping with the extant literature indicating that high apprehensives use a relatively low volume in their encoding behavior. The experiment forced them into a "social interaction" (see procedures) and consequently they were forced to utilize a smaller distance to comply.

An additional reason for this finding is also possible. It could be a significant factor or merely one which contributes to the resulting behavior. Due to the high apprehensives' desire and conscious effort to avoid communication situations, it is possible that they lack the knowledge to "correctly" interact socially. This lack of knowledge coupled with the "fear" of their voice results in a closer proximity than would normally occur. Given the choice of communicating or not, the members of high-high dyads probably would have chosen not to communicate at all and therefore would have stood at opposite ends of the room. However, when forced to interact, they move much closer together than any other group.

The dyadic groups containing the high-low and the low-low apprehensives appear to exhibit what Hall calls a proper cultural use of space.<sup>1</sup> It could be concluded that due to

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<sup>1</sup>  
Edward T. Hall, The Hidden Dimension, (New York: Random House, 1966).

the more frequent social encounters and the increased desire to interact on the part of the low apprehensives, they tend to utilize a greater distance.

Perhaps the major implication of this finding rests with the teaching of high communication apprehensives. Such courses could be conducted in various ways. The traditional desensitization courses have proven to be effective. Watson in an unpublished summary indicated that the effect of "confidence" sections of fundamental speech courses held in the fall of 1979 at Western Kentucky University was a significant reduction in the anxiety level of students. The average score of apprehensive students at the beginning of the course was 95.72 (determined by the PRCA - see Appendix C). At the conclusion of the course, the average had been reduced to 70.42 for an overall average student improvement of 25.30.

A different approach could also be taken to reduce the level of apprehensiveness. This study points to two nonverbal behavioral patterns that can be predicted based upon communication apprehension: proxemic establishment and encoding volume. The theory of self-perception indicates that if an apprehensive individual can be induced to alter his/her proxemic and/or volume usage, then the level of apprehensiveness should be reduced. The principle states that attitudes follow behavior. <sup>2</sup>



If this held true for communication predispositions, like communication apprehension, then a class which taught individuals to use a higher volume or to utilize more distance in interpersonal interactions would reduce the degree of apprehensiveness of individuals. Bem explains why this reaction occurs in that the individual's new behavior (greater proxemic usage and/or higher volume) "provides a source from which he draws a new set of inferences about what he feels and believes."<sup>3</sup>

While the findings of this study indicate that communication apprehension is a predispositional factor capable of predicting proxemic relationships, additional research is needed to further define this relationship. This study, like the Cardot and Dodd study, raises the question of communication apprehension in relation to a vocalic variable, volume. It shows that the overall encoding behavior of communication apprehensive is an area open for research. It also raises questions relating other nonverbal behaviors with communication apprehension. Its relation to temporality, kinesics, oculesics, haptics, and others could become justifiable areas of research.

### Hypothesis 2

The second hypothesis concerns differences in personal space establishments among male/male and female/female dyads within each group. The results indicate that significant

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<sup>3</sup>

Bem, Beliefs, Attitudes, And Human Affairs. p. 66.

differences do indeed exist whenever a low apprehensive is a member of the dyad (see table 5). However, when two high apprehensives are together, the differences of spatial usage between males and females appears to be overridden by the apprehensiveness. If the conclusions drawn on the first hypothesis are correct, then the same reasons should apply to the second hypothesis. That is, a lack of communication skills became the controlling factor over sex.

It should be noted that even in the high-high communication apprehension group, males (on the average) stood at greater distances from their dyadic partners than females. However, this difference was not statistically significant. It appears that even the sex factor is overridden once the degree of apprehensiveness reaches a certain level. If this is true, then socially accepted behaviors could be shown to be controlled by personality traits rather than by custom (at least partially).

Additional research is needed to quantify this finding. While it seems valid, one study is simply not enough to assert a final conclusion as fact. Such research would also want to examine cross-cultural differences as they pertain to sex. Controlling apprehension, as this study did, should provide interesting results. It is possible (though not too likely) that past researchers have made misleading conclusions based upon an uncontrolled variable.

### Hypothesis 3

The third hypothesis dealt with an attempt to add to the few studies relating communication apprehension and self-esteem. On the basis of previous research, it was expected that a negative correlation would exist. As indicated in chapter I, researchers have found a correlation from  $-.48$  to  $-.72$ . The problem with comparing these figures to the  $-.55$  obtained by this study is the inconsistency between measuring instruments. The use of self-esteem scales has given figures between  $-.48$  and  $-.52$ . However, use of a self-acceptance scale, which is defined as a construct similar to self esteem, has yielded figures between  $-.59$  and  $-.72$ .

The abnormally high figure (for a self-esteem scale) obtained in this study can perhaps best be explained by the use of primarily those subjects experiencing a degree of communication apprehension that was statistically either high or low. The study utilized only forty subjects experiencing mid-range apprehension. However, for whatever reason, these findings suggest that a rather significant negative correlation does exist between communication apprehension and self-esteem. It appears that the more willing or more comfortable a person is in communicating, the better that person will feel about him/herself.

While there are many "persuasive" methods of building one's self-esteem, it could be concluded by this study that by decreasing one's apprehensiveness, the level of self-esteem will rise. It should be true that if one's self-esteem



is increased, then the level of apprehension should be decreased.

#### Hypothesis 4

The final hypothesis sought to provide additional research relating communication apprehension and dogmatism. As indicated in chapter I, only two studies had been reported at the time the current project was undertaken. While both found significance, neither was above .20. They did indicate a positive correlation, and this was supported with the .46 obtained by the present researcher.

It appears that those who are apprehensive about communicating are also those individuals who are highly dogmatic. This would indicate that those who seek to avoid conversations are also those who will listen less when they do enter conversations. This supports earlier studies dealing with perceptions which are discussed in chapter I.

While this study found a relatively strong positive correlation between communication apprehension and dogmatism, there is a serious question as to its complete validity. The study seems clear and straight forward on the surface. However, the data reveal a situation that might account for the unusually high correlation. When the correlation coefficients were obtained, 220 subjects were used. However, 180 of those were the subjects utilized in the proxemics portion of the study. That aspect used only individuals who were statistically either high or low with regard to communication

apprehension. Therefore, the correlation coefficient obtained fails to account significantly for the majority of the population who falls in the middle range of apprehensiveness, since only 40 such individuals were utilized.

The finding should and must be defended to the extent that it (1) is a positive relationship established by others and (2) indicates the degree of dogmatism that exists with statistically high and low apprehensives. For these reasons, the finding should seriously be considered.

The last area needing consideration deals with the attempt to establish predictor variables for both communication apprehension and proxemics. As tables 7 and 8 indicate, a rank-order can be established for the variables considered. However, upon close examination of the Beta values, it becomes evident that only one variable under each condition provides a significant contribution. It must be understood that such an analysis was not designed to be part of the study. The variables were not seriously considered to be predictor variables. With this in mind, the rank-order obtained becomes interesting although not very useful.

### Summary

The foregoing investigation has made a significant step toward answering the hypotheses set forth. While much remains to be discovered about communication apprehension and its relationship with proxemics, self-esteem and dogmatism, this study clearly indicates that predictable

correlations do exist. Communication apprehension is a predisposition which clearly affects proxemic establishment. The data also suggests that a negative correlation exists between communication apprehension and self-esteem while a positive one exists between communication apprehension and dogmatism. Finally, the data indicate that communication apprehension can override the sex variables with regard to spatial usage. In light of this present study, the future examination of communication apprehension as it relates to nonverbal variables will be interesting and informative.



APPENDIX A  
(Self-esteem Scale)

Name: \_\_\_\_\_ Sex: \_\_\_\_\_

School Classification: \_\_\_\_\_

Please circle below each item the response which you feel is most appropriate for you:

1. I feel that I'm a person of worth, at least on a equal basis with others.

Strongly Agree    Agree    Neutral    Disagree    Strongly Disagree

2. I feel that I have a number of good qualities.

Strongly Agree    Agree    Neutral    Disagree    Strongly Disagree

- \* 3. All in all, I am inclined to feel that I am a failure.

Strongly Agree    Agree    Neutral    Disagree    Strongly Disagree

4. I am able to do things as well as most other people.

Strongly Agree    Agree    Neutral    Disagree    Strongly Disagree

- \* 5. I feel I do not have much to be proud of.

Strongly Agree    Agree    Neutral    Disagree    Strongly Disagree

6. I take a positive attitude toward myself.

Strongly Agree    Agree    Neutral    Disagree    Strongly Disagree

7. On the whole, I am satisfied with myself.

Strongly Agree    Agree    Neutral    Disagree    Strongly Disagree

- \* 8. I wish I could have more respect for myself.

Strongly Agree    Agree    Neutral    Disagree    Strongly Disagree

- \* 9. I certainly feel useless at times.

Strongly Agree    Agree    Neutral    Disagree    Strongly Disagree

- \* 10. At times I think I am no good at all.

Strongly Agree    Agree    Neutral    Disagree    Strongly Disagree

\*These items need to be reversed in scoring

## APPENDIX B

## (Dogmatism Scale\*)

11. In this complicated world of ours, the only way we can know what's going on is to rely on leaders and experts who can be trusted.

Strongly Agree    Agree    Neutral    Disagree    Strongly Disagree

12. My blood boils whenever a person stubbornly refuses to admit he's wrong.

Strongly Agree    Agree    Neutral    Disagree    Strongly Disagree

13. There are two kinds of people in this world: Those who are for the truth and those who are against the truth.

Strongly Agree    Agree    Neutral    Disagree    Strongly Disagree

14. Most people just don't know what's good for them.

Strongly Agree    Agree    Neutral    Disagree    Strongly Disagree

15. Of all the different philosophies which exist in this world there is probably only one which is correct.

Strongly Agree    Agree    Neutral    Disagree    Strongly Disagree

16. The main thing in life is for a person to want to do something important.

Strongly Agree    Agree    Neutral    Disagree    Strongly Disagree

17. Most of the ideas which get printed nowadays aren't worth the paper they're printed on.

Strongly Agree    Agree    Neutral    Disagree    Strongly Disagree

18. It is only when a person devotes himself to an idea or cause that life becomes meaningful.

Strongly Agree    Agree    Neutral    Disagree    Strongly Disagree

19. It is often desirable to reserve judgment about what's going on until one has had a chance to hear the opinions of those one respects.

Strongly Agree    Agree    Neutral    Disagree    Strongly Disagree

20. Most people really don't care about others.

Strongly Agree    Agree    Neutral    Disagree    Strongly Disagree

\*No items are to be reversed in scoring

## APPENDIX C

## (Personal Report of Communication Apprehension)

Communication Motivations	SA	A	UN	D	SD
*1. While participating in a conversation with a new acquaintance I feel very nervous.	1	2	3	4	5
2. I have no fear of facing an audience	1	2	3	4	5
*3. I talk less because I'm shy.	1	2	3	4	5
4. I look forward to expressing my opinions at meetings.	1	2	3	4	5
*5. I am afraid to express myself in a group.	1	2	3	4	5
6. I look forward to an opportunity to speak in public.	1	2	3	4	5
7. I find the prospect of speaking mildly unpleasant.	1	2	3	4	5
*8. When communicating, my posture feels strained and unnatural.	1	2	3	4	5
*9. I am tense and nervous while participating in group discussion.	1	2	3	4	5
*10. Although I talk fluently with friends, I am at a loss for words on the platform.	1	2	3	4	5
11. I have no fear about expressing myself in a group.	1	2	3	4	5
*12. My hands tremble when I try to handle objects on the platform.	1	2	3	4	5
*13. I always avoid speaking in public if possible.	1	2	3	4	5
14. I feel that I am more fluent than most people are when talking to other people.	1	2	3	4	5
*15. I am fearful and tense all the while I am speaking before a group of people.	1	2	3	4	5
*16. My thoughts become confused and jumbled when I speak before an audience.	1	2	3	4	5
17. I like to get involved in group discussions.	1	2	3	4	5



18. Although I am nervous just before getting up, I soon forget my fears and enjoy the experience.	SA	A	UN	D	SD
	1	2	3	4	5
*19. Conversing with people who hold positions of authority causes me to be fearful and tense.	1	2	3	4	5
*20. I dislike to use my body and voice expressively.	1	2	3	4	5
21. I feel relaxed and comfortable while speaking.	1	2	3	4	5
*22. I feel self-conscious when I am called upon to answer a question or give an opinion in class.	1	2	3	4	5
23. I face the prospect of making a speech with complete confidence.	1	2	3	4	5
*24. I'm afraid to speak up in conversations.	1	2	3	4	5
25. I would enjoy presenting a speech on a local television show.	1	2	3	4	5

\* Items to be reversed in scoring

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